

ABSTRACT

5 There are provided microorganisms having a property
of producing a lipid containing unsaturated fatty acids
as constituent fatty acids and extracellularly secreting
the produced lipid encapsulated in lipid vesicles,
methods of screening said microorganisms, as well as
methods of efficiently producing a fatty acid-containing
lipid using said microorganisms. Furthermore, there are
10 provided lipid vesicles encapsulating a lipid containing
unsaturated fatty acids, and foods, cosmetics, and animal
feeds comprising said lipid vesicles added thereto.

Artificially treated microorganisms or
microorganisms collected from nature are grown on a solid
15 medium, and microbial strains that form lipid vesicles at
the periphery of the colonies and/or microbial strains
that, when cultured in a transparent liquid medium, make
the culture liquid cloudy are selected. The
microorganisms obtained are cultured, lipid-containing
20 lipid vesicles secreted in the culture liquid, are
separated from the culture liquid, and the lipid is
separated and purified.

sub B67

RECEIVED
FBI
JAN 11 1967

(19) 世界知的所有権機関
国際事務局



(43) 国際公開日
2001年2月22日 (22.02.2001)

PCT

(10) 国際公開番号
WO 01/12780 A1

(51) 国際特許分類:
C12P 7/64, A23D 7/00, A23K 1/16

C12N 1/14,

(AKIMOTO, Kengo) [JP/JP]; 〒618-0001 大阪府三島郡島本町山崎1-9-5-1006 Osaka (JP). 河島 洋 (KAWASHIMA, Hiroshi) [JP/JP]; 〒569-1121 大阪府高槻市真上町6-11-1-113 Osaka (JP). 清水 昌 (SHIMIZU, Sakayu) [JP/JP]; 〒616-8212 京都府京都市右京区常盤山下町6-9 Kyoto (JP).

(21) 国際出願番号:

PCT/JP00/05425

(22) 国際出願日:

2000年8月11日 (11.08.2000)

(25) 国際出願の言語:

日本語

(74) 代理人: 石田 敬. 外 (ISHIDA, Takashi et al.); 〒105-8423 東京都港区虎ノ門三丁目5番1号 虎ノ門37 森ビル 青和特許法律事務所 Tokyo (JP).

(26) 国際公開の言語:

日本語

(30) 優先権データ:

特願平11/229509 1999年8月13日 (13.08.1999) JP

(81) 指定国 (国内): AU, CA, JP, KR, US.

(71) 出願人 (米国を除く全ての指定国について): サントリー株式会社 (SUNTORY LIMITED) [JP/JP]; 〒530-8203 大阪府大阪市北区堂島浜2丁目1番40号 Osaka (JP).

(84) 指定国 (広域): ヨーロッパ特許 (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

添付公開書類:

— 国際調査報告書

(72) 発明者; および

(75) 発明者/出願人 (米国についてのみ): 秋元健吾

2文字コード及び他の略語については、定期発行される各PCTガゼットの巻頭に掲載されている「コードと略語のガイダンスノート」を参照。

TITLE VI

(54) Title: MICROORGANISM SECRETING OUT LIPID AND PROCESS FOR PRODUCING THE LIPID AND LIPID BALLS HAVING THE LIPID ENCAPSULATING THEREIN BY USING THE MICROORGANISM

(54) 発明の名称: 脂質を菌体外に分泌する微生物ならびに当該微生物を用いた脂質および脂質を内包する油滴小胞の製造方法

(57) Abstract: A microorganism characterized by producing a lipid constituted by unsaturated fatty acids and secreting outside the cells the thus produced lipid in the form of lipid balls having the lipid encapsulated therein; a method for screening this microorganism; a process for efficiently producing the lipid containing the unsaturated fatty acids by using this microorganism; lipid balls having the lipid containing the unsaturated fatty acids encapsulated therein; and foods, cosmetics and animal feeds containing these lipid balls. Artificially treated microorganisms or microorganisms collected from nature are grown in a solid medium and a strain forming lipid balls around its colonies is selected, and/or grown in a transparent liquid medium and a strain causing cloudiness in the culture medium is selected. The thus obtained microorganism is cultured and the lipid balls having the secreted lipid are separated from the culture medium followed by the separation and purification of the lipid.

[続葉有]

WO 01/12780 A1